

During past ship surveys and vessel walk-throughs conducted when cleanup and preparation for a vessel-to-reef project were near completion, a number of vessel remediation oversights were identified which required further action. The following list comprises management practices associated with observations made of previous vessel-to-reef projects only -- the issues identified below only relate to concerns/questions that have been raised in the past. Consideration of such observations, issues, and management practices may be relevant for the *Kittiwake* vessel-to-reef project when complying with the export provisions of the PCB regulations (40 CFR 761.97) and when striving to achieve the cleanup goals of the “*National Guidance: Best Management Practices for Preparing Vessels Intended to Create Artificial Reefs* May 2006 (BMPs).” This list only represents a small subset of the cleanup actions that would be needed to satisfy the BMPs and the export provisions of the PCB regulations, and are presented here to hopefully avoid confusion/delays in cleaning the *Kittiwake* to the appropriate levels.

General Housekeeping Practices

- General housekeeping practices could reduce the amount of garbage generated on the ship. Trash such as food wrappers and plastic bottles have been found throughout vessels, including in boilers and air compressors. Setting aside time for daily trash pickup before departing the ship and encouraging the use of trash receptacles onboard may help.
- When moving remediation equipment from one section of the ship to another or concluding remediation of a particular section of the ship, clear the area of trash, tools and other pieces of equipment.
- If machinery such as diesel powered generators is brought onboard for use during vessel cleanup, spill cleanup kits and drip pans should be onboard to address a fuel leak or spill.
- If roll-offs will be used to store wastes and other materials for disposal or recycling, periodically verify the materials are going into the appropriate containers and the roll-offs are marked according to EPA and DOT requirements.

Vessel Machinery and Electrical Equipment

- Large motors such as winch motors or generator motors house cables, wires, oils, and greases. These motors should be cleaned of cables, wires, oils and greases or the motors should be removed entirely from the vessel.
- Electrical boxes, junctions and panels tend to house wires, cables, motors, capacitors, transformers and/or other small electrical components which should be removed from the equipment or the electrical boxes, junctions and/or panels should be removed entirely from the vessel.
- Electrical equipment being salvaged for static display must be cleaned of all wires, cables, motors, transformers, capacitors or other internal electrical components. If the electrical equipment is intended to stay onboard, it must be cleaned of all wires, cables, motors, transformers, capacitors or other internal electrical components or removed entirely from the ship.
- If transformers are to remain onboard, verify the transformers are dry. If verification cannot be made, those transformers must be removed from the ship.

Basic Removals

- Remove all plastics and rubbers. Items often comprised of such materials include Bakelite light fixtures, rubber cushioning material on the life boat davits, wall mounted fire extinguisher holders, plexiglass, and smoke detector fixtures.
- If crew bunks, medicine cabinets or desk units will remain onboard check for and remove all fluorescent lighting fixtures or remove the ballasts, bulbs and wires.
- Remove all Mercury thermostats, thermometers and/or other Mercury containing devices such as barometers and pressure gauges.
- When removing cable and wiring, verify all cable ends/stubs/nubs have been removed from brackets, bulkhead pass-throughs or other cable support systems.